

log: hector_mapping 20210629

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1. in response to 5044:
 - reply for 1
 - reply for 2
 - reply for 3
2. attempts and modifications on new launch file
 1. launch file: hector_slam_rfans_tf_1.launch
 2. launch file: hector_slam_rfans_tf_2.launch

1. in response to 5044:

由 Yu Ryan 更新于 大约 2 小时 之前

#15

Please provide me with the following:

1. output of `rostopic list` after launching only lidar (no SLAM)
2. screenshot of Node graph

Run `rqt` in terminal, and it should open the rqt window. Choose "Plugins"->"Introspection"->"Node Graph"

3. screenshot of TF Tree

In the rqt window, Choose "Plugins"->"Visualization"->"TF Tree"

Attach these to the ticket

Another suggestion:

In your launch file, try deleting line 46:

```
<param name="target_frame" value="rfans" />
```

Or change the value to a valid frame name (find the frame name of the lidar by looking at the TF tree)

reply for 1

lslidar_c16_tf.launch file used.

```
1 <launch>
2
3 <!-- launch lslidar_c16 -->
4 <node pkg="lslidar_c16_driver"
5       type="lslidar_c16_driver_node"
6       name="lslidar_c16_driver_node"
7       output="screen">
8   <param name="lidar_ip" value="192.168.1.200"/>
9   <param name="device_port" value="2368"/>
10   <param name="add_multicast" value="false"/>
11   <param name="group_ip" value="224.1.1.2"/>
12 </node>
13
14 <node pkg="lslidar_c16_decoder"
15       type="lslidar_c16_decoder_node"
16       name="lslidar_c16_decoder_node"
17       output="screen">
18   <param name="frame_id" value="laser_link"/>
19   <!-- <param name="point_num" value="2000"/> -->
```

```

20     <param name="point_num" value="5000"/>
21     <param name="channel_num" value="8"/>
22     <param name="angle_disable_min" value="0"/>
23     <param name="angle_disable_max" value="0"/>
24     <param name="angle3_disable_min" value="0"/>
25     <param name="angle3_disable_max" value="0"/>
26     <param name="min_range" value="0.15"/>
27     <param name="max_range" value="150.0"/>
28     <!-- <param name="frequency" value="10.0"/> -->
29     <param name="frequency" value="100.0"/>
30     <param name="publish_point_cloud" value="true"/>
31     <param name="publish_scan" value="true"/>
32     <param name="use_gps_ts" value="false"/>
33 </node>
34
35
36 <!-- TF monitoring -->
37 <node pkg="tf" type="static_transform_publisher" name="base_to_laser"
38     args="0.0 0.0 1.4 0.0 0.0 0.0 base_link laser_link 100">
39 </node>
40
41
42 <!-- visualize point cloud -->
43 <node name="rviz" pkg="rviz" type="rviz"
44     args="-d $(find
hector_slam_pkg)/rviz/config_rviz_lslidar_tf_fixBase_0629.rviz"
45     output="screen"/>
46
47 </launch>

```

CLI output: `roslaunch hector_slam_pkg lslidar_c16_tf.launch --screen`

```

1  $ roslaunch hector_slam_pkg lslidar_c16_tf.launch --screen
2
3  ... logging to /home/ds16v2/.ros/log/4f973c76-d8d7-11eb-851e-
a0c589ac1e85/roslaunch-ds16v2-14552.log
4  Checking log directory for disk usage. This may take awhile.
5  Press Ctrl-C to interrupt
6  Done checking log file disk usage. Usage is <1GB.
7
8  started roslaunch server http://ds16v2:36779/
9
10 SUMMARY
11 =====
12
13 PARAMETERS
14 * /lslidar_c16_decoder_node/angle3_disable_max: 0
15 * /lslidar_c16_decoder_node/angle3_disable_min: 0
16 * /lslidar_c16_decoder_node/angle_disable_max: 0
17 * /lslidar_c16_decoder_node/angle_disable_min: 0
18 * /lslidar_c16_decoder_node/channel_num: 8
19 * /lslidar_c16_decoder_node/frame_id: laser_link
20 * /lslidar_c16_decoder_node/frequency: 100.0
21 * /lslidar_c16_decoder_node/max_range: 150.0
22 * /lslidar_c16_decoder_node/min_range: 0.15

```

```

23 * /lslidar_c16_decoder_node/point_num: 5000
24 * /lslidar_c16_decoder_node/publish_point_cloud: True
25 * /lslidar_c16_decoder_node/publish_scan: True
26 * /lslidar_c16_decoder_node/use_gps_ts: False
27 * /lslidar_c16_driver_node/add_multicast: False
28 * /lslidar_c16_driver_node/device_port: 2368
29 * /lslidar_c16_driver_node/group_ip: 224.1.1.2
30 * /lslidar_c16_driver_node/lidar_ip: 192.168.1.200
31 * /roscdistro: kinetic
32 * /rosversion: 1.12.17
33
34 NODES
35 /
36   base_to_laser (tf/static_transform_publisher)
37   lslidar_c16_decoder_node (lslidar_c16_decoder/lslidar_c16_decoder_node)
38   lslidar_c16_driver_node (lslidar_c16_driver/lslidar_c16_driver_node)
39   rviz (rviz/rviz)
40
41 auto-starting new master
42 process[master]: started with pid [14562]
43 ROS_MASTER_URI=http://localhost:11311
44
45 setting /run_id to 4f973c76-d8d7-11eb-851e-a0c589ac1e85
46 process[rosout-1]: started with pid [14575]
47 started core service [/rosout]
48 process[lslidar_c16_driver_node-2]: started with pid [14582]
49 process[lslidar_c16_decoder_node-3]: started with pid [14593]
50 process[base_to_laser-4]: started with pid [14595]
51 [ INFO] [1624970483.673167284]: namespace is /lslidar_c16_driver_node
52 process[rviz-5]: started with pid [14616]
53 [ INFO] [1624970483.685240866]: Opening UDP socket: address 192.168.1.200
54 [ INFO] [1624970483.685269686]: Opening UDP socket: port 2368
55 [ INFO] [1624970483.685288398]: expected frequency: 833.333 (Hz)
56 [ INFO] [1624970483.686908285]: Opening UDP socket: port 2368
57 [ INFO] [1624970483.686940262]: Initialised lslidar c16 without error
58 [ WARN] [1624970483.694945045]: discard Point cloud angle from 0.00 to 0.00
59 [ WARN] [1624970483.694994583]: switch angle from 6.28 to 6.28 in left hand
    rule
60 [ WARN] [1624970483.703158191]: Using GPS timestamp or not 0
61 [ INFO] [1624970483.703196361]: require to publish scan type message
62 [ INFO] [1624970483.792509752]: rviz version 1.12.17
63 [ INFO] [1624970483.792550719]: compiled against Qt version 5.5.1
64 [ INFO] [1624970483.792559324]: compiled against OGRE version 1.9.0
    (Ghadamon)
65 [ INFO] [1624970483.912675746]: default channel is 8
66 [ INFO] [1624970484.219912713]: Stereo is NOT SUPPORTED
67 [ INFO] [1624970484.219981682]: OpenGL version: 4.6 (GLSL 4.6).
68 ^C[rviz-5] killing on exit
69 [base_to_laser-4] killing on exit
70 [lslidar_c16_decoder_node-3] killing on exit
71 [lslidar_c16_driver_node-2] killing on exit
72 [rosout-1] killing on exit
73 [master] killing on exit
74 shutting down processing monitor...
75 ... shutting down processing monitor complete
76 done
77 ds16v2@ds16v2:~/catkin_x/lslidar_slam_ws$ roslaunch hector_slam_pkg
    lslidar_c16_tf.launch --screen

```

```
78 ... logging to /home/ds16v2/.ros/log/339fdc84-d8d8-11eb-851e-
a0c589ac1e85/roslaunch-ds16v2-14827.log
79 Checking log directory for disk usage. This may take awhile.
80 Press Ctrl-C to interrupt
81 Done checking log file disk usage. Usage is <1GB.
82
83 started roslaunch server http://ds16v2:43831/
84
85 SUMMARY
86 =====
87
88 PARAMETERS
89 * /lslidar_c16_decoder_node/angle3_disable_max: 0
90 * /lslidar_c16_decoder_node/angle3_disable_min: 0
91 * /lslidar_c16_decoder_node/angle_disable_max: 0
92 * /lslidar_c16_decoder_node/angle_disable_min: 0
93 * /lslidar_c16_decoder_node/channel_num: 8
94 * /lslidar_c16_decoder_node/frame_id: laser_link
95 * /lslidar_c16_decoder_node/frequency: 100.0
96 * /lslidar_c16_decoder_node/max_range: 150.0
97 * /lslidar_c16_decoder_node/min_range: 0.15
98 * /lslidar_c16_decoder_node/point_num: 5000
99 * /lslidar_c16_decoder_node/publish_point_cloud: True
100 * /lslidar_c16_decoder_node/publish_scan: True
101 * /lslidar_c16_decoder_node/use_gps_ts: False
102 * /lslidar_c16_driver_node/add_multicast: False
103 * /lslidar_c16_driver_node/device_port: 2368
104 * /lslidar_c16_driver_node/group_ip: 224.1.1.2
105 * /lslidar_c16_driver_node/lidar_ip: 192.168.1.200
106 * /rostdistro: kinetic
107 * /rosversion: 1.12.17
108
109 NODES
110 /
111   base_to_laser (tf/static_transform_publisher)
112   lslidar_c16_decoder_node (lslidar_c16_decoder/lslidar_c16_decoder_node)
113   lslidar_c16_driver_node (lslidar_c16_driver/lslidar_c16_driver_node)
114   rviz (rviz/rviz)
115 -
116 auto-starting new master
117 process[master]: started with pid [14837]
118 ROS_MASTER_URI=http://localhost:11311
119
120 setting /run_id to 339fdc84-d8d8-11eb-851e-a0c589ac1e85
121 process[rosout-1]: started with pid [14850]
122 started core service [/rosout]
123 process[lslidar_c16_driver_node-2]: started with pid [14857]
124 process[lslidar_c16_decoder_node-3]: started with pid [14868]
125 [ INFO] [1624970866.253656925]: namespace is /lslidar_c16_driver_node
126 process[base_to_laser-4]: started with pid [14878]
127 [ INFO] [1624970866.263323714]: Opening UDP socket: address 192.168.1.200
128 [ INFO] [1624970866.263357449]: Opening UDP socket: port 2368
129 [ INFO] [1624970866.263378204]: expected frequency: 833.333 (Hz)
130 [ INFO] [1624970866.264967737]: Opening UDP socket: port 2368
131 [ INFO] [1624970866.264997584]: Initialised lslidar c16 without error
132 process[rviz-5]: started with pid [14897]
133 [ WARN] [1624970866.276564385]: discard Point cloud angle from 0.00 to 0.00
```

```

134 [ WARN] [1624970866.276614127]: switch angle from 6.28 to 6.28 in left hand
rule
135 [ WARN] [1624970866.283796490]: Using GPS timestamp or not 0
136 [ INFO] [1624970866.283822872]: require to publish scan type message
137 [ INFO] [1624970866.375069769]: rviz version 1.12.17
138 [ INFO] [1624970866.375115846]: compiled against Qt version 5.5.1
139 [ INFO] [1624970866.375129498]: compiled against OGRE version 1.9.0
(Ghadamon)
140 [ INFO] [1624970866.492806518]: default channel is 8
141 [ INFO] [1624970866.792206008]: Stereo is NOT SUPPORTED
142 [ INFO] [1624970866.792286412]: OpenGL version: 4.6 (GLSL 4.6).
143
144

```

```

auto-starting new master
process[master]: started with pid [9417]
ROS_MASTER_URI=http://localhost:11311

setting /run_id to 19521c60-d8ca-11eb-851e-a0c589acle85
process[rosout-1]: started with pid [9430]
started core service [/rosout]
process[lslidar_c16_driver_node-2]: started with pid [9437]
process[lslidar_c16_decoder_node-3]: started with pid [9448]
[ INFO] [1624964809.163412260]: namespace is /lslidar_c16_driver_node
process[rviz-4]: started with pid [9458]
[ INFO] [1624964809.170676833]: Opening UDP socket: address 192.168.1.200
[ INFO] [1624964809.170715141]: Opening UDP socket: port 2368
[ INFO] [1624964809.170753071]: expected frequency: 833.333 (Hz)
[ INFO] [1624964809.172144538]: Opening UDP socket: port 2368
[ INFO] [1624964809.172171349]: Initialised lslidar c16 without error
[ WARN] [1624964809.178980294]: discard Point cloud angle from 0.00 to 0.00
[ WARN] [1624964809.179029846]: switch angle from 6.28 to 6.28 in left hand rule
[ WARN] [1624964809.184273260]: Using GPS timestamp or not 0
[ INFO] [1624964809.184301253]: require to publish scan type message
[ INFO] [1624964809.275603432]: rviz version 1.12.17
[ INFO] [1624964809.275645571]: compiled against Qt version 5.5.1
[ INFO] [1624964809.275655855]: compiled against OGRE version 1.9.0 (Ghadamon)
[ INFO] [1624964809.399104666]: default channel is 8
[ INFO] [1624964809.729761447]: Stereo is NOT SUPPORTED
[ INFO] [1624964809.729855292]: OpenGL version: 4.6 (GLSL 4.6).

```

CLI output: `rostopic list`

```

dsl16v2@dsl16v2:~/catkin_x/lslidar_slam_ws$ rostopic list
/clicked_point
/diagnostics
/initialpose
/layer_num
/lslidar_packet
/lslidar_point_cloud
/lslidar_sweep
/move_base_simple/goal
/rosout
/rosout_agg
/scan
/scan_channel
/statistics
/tf
/tf_static
dsl16v2@dsl16v2:~/catkin_x/lslidar_slam_ws$

```

reply for 2

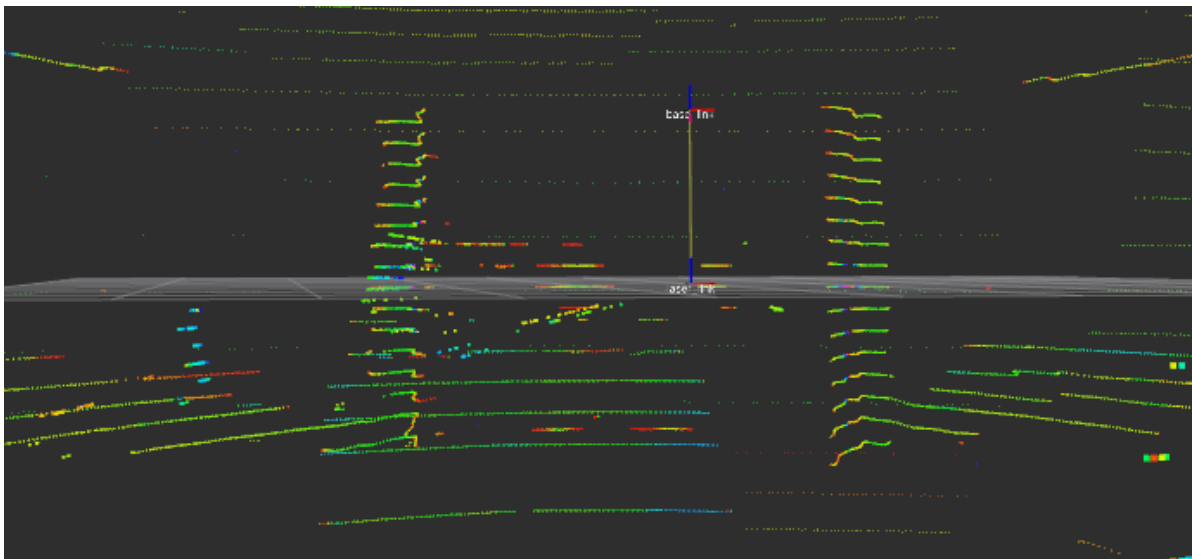
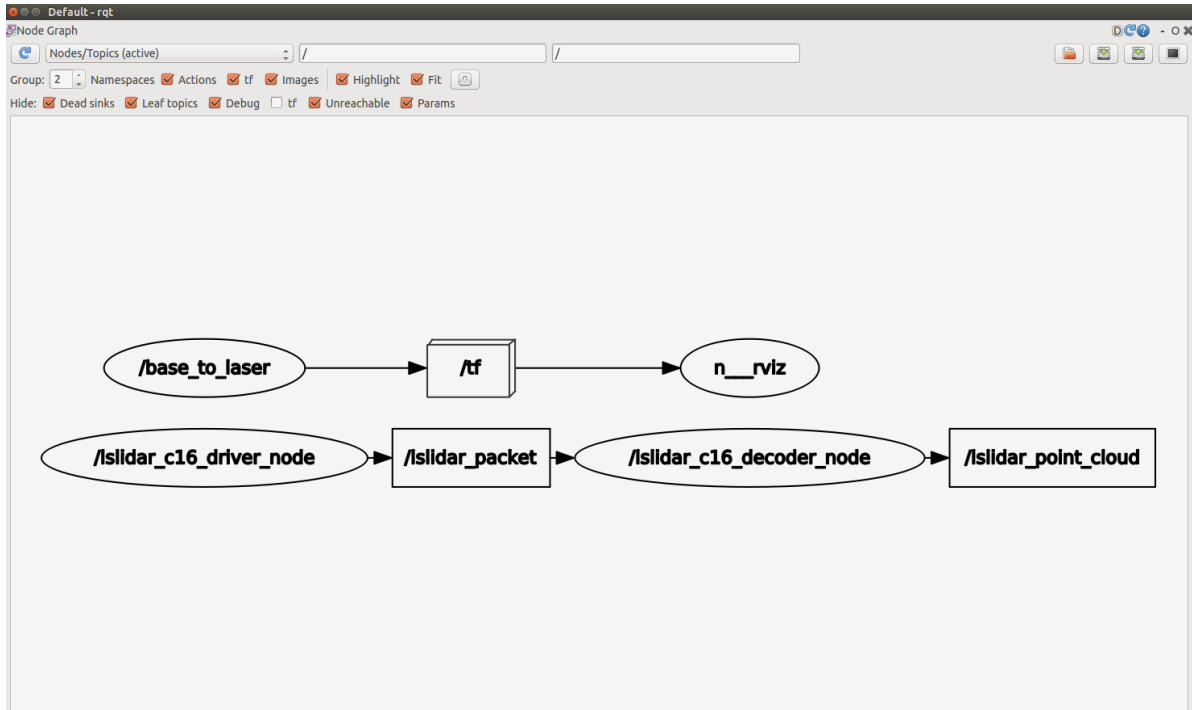
note: when adding tf package node in .launch file

```

1  <!-- TF monitoring -->
2  <node pkg="tf" type="static_transform_publisher" name="base_to_laser"
3      args="0.0 0.0 1.4 0.0 0.0 0.0 base_link laser_link 100">
4  </node>
5

```

again run `rqt`, the `/tf` node will be displayed in rqt graph.



TF

✓ Status: Ok

✓ base_link

✓ laser_link

Show Names

Show Axes

Show Arrows

Marker Scale

Update Interval

Frame Timeout

Frames

All Enabled

base_link

Parent

Position

Orientation

Relative Position

Relative Orientation

laser_link

Parent

Position

Orientation

Relative Position

Relative Orientation

Tree

base_link

laser_link

✓

Transform OK

Transform OK

✓

✓

✓

1

0

15

✓

✓

0; 0; 1.35

0; 0; 0; 1

0; 0; 0

0; 0; 0; 1

✓

base_link

0; 0; 0

0; 0; 0; 1

0; 0; -1.35

0; 0; 0; 1

config rviz_lidar_tf_fixBase_0620.rviz* - RViz

Interact

Move Camera

Select

Focus Camera

Measure

2D Pose Estimate

2D New Goal

Publish Point

Displays

Cell Size

Line Style

Color

Alpha

Plane

Offset

X

Y

Z

PointCloud2

✓ Status: Ok

Topic

Unreliable

Selectable

Style

Size (m)

Alpha

Decay Time

Position Transformer

Color Transformer

Queue Size

Channel Name

Use rainbow

Invert Rainbow

Min Color

Max Color

Autocompute Intensity Bounds

Min Intensity

Max Intensity

TF

✓ Status: Ok

base_link

laser_link

Show Names

Show Axes

Show Arrows

Marker Scale

Update Interval

Frame Timeout

Frames

All Enabled

base_link

Size (m)

Point size in meters.

Add

Duplicate

Remove

Rename

Time

ROS Time: 1624971164.32

ROS Elapsed: 297.33

Wall Time: 1624971164.35

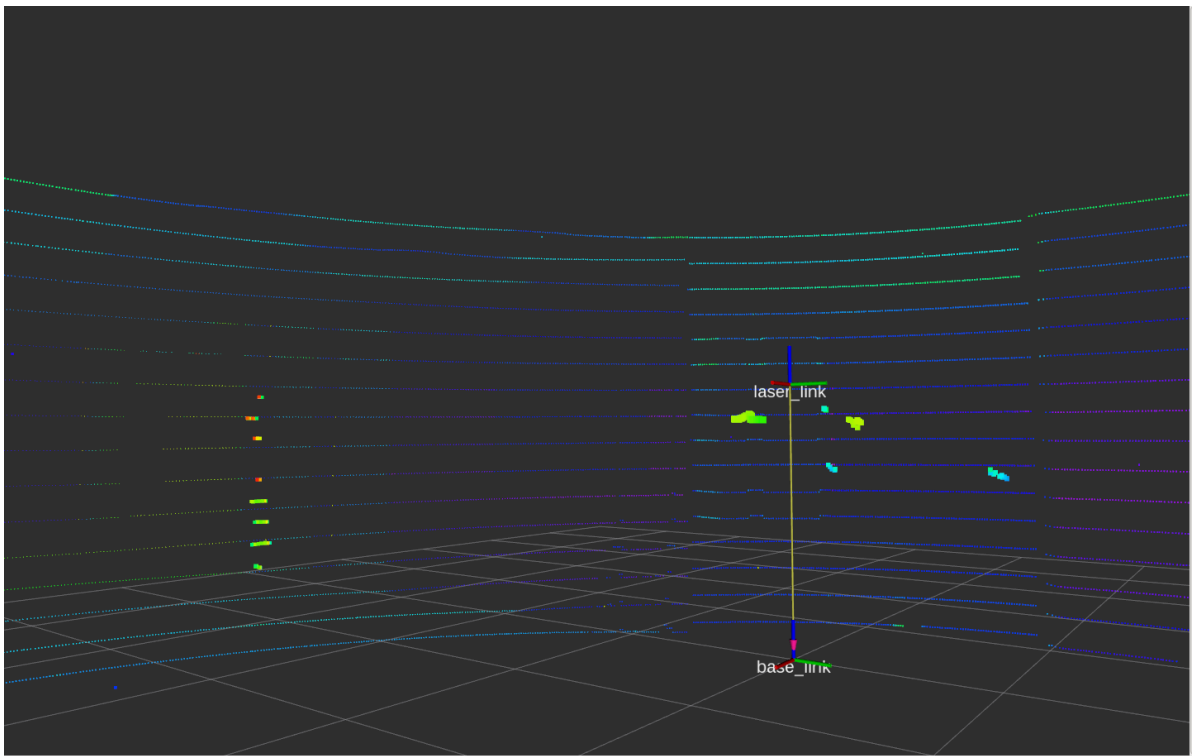
Wall Elapsed: 297.33

Experimental

Reset

Left-Click: Move X/Y. Right-Click: Zoom.


31 fps



reply for 3

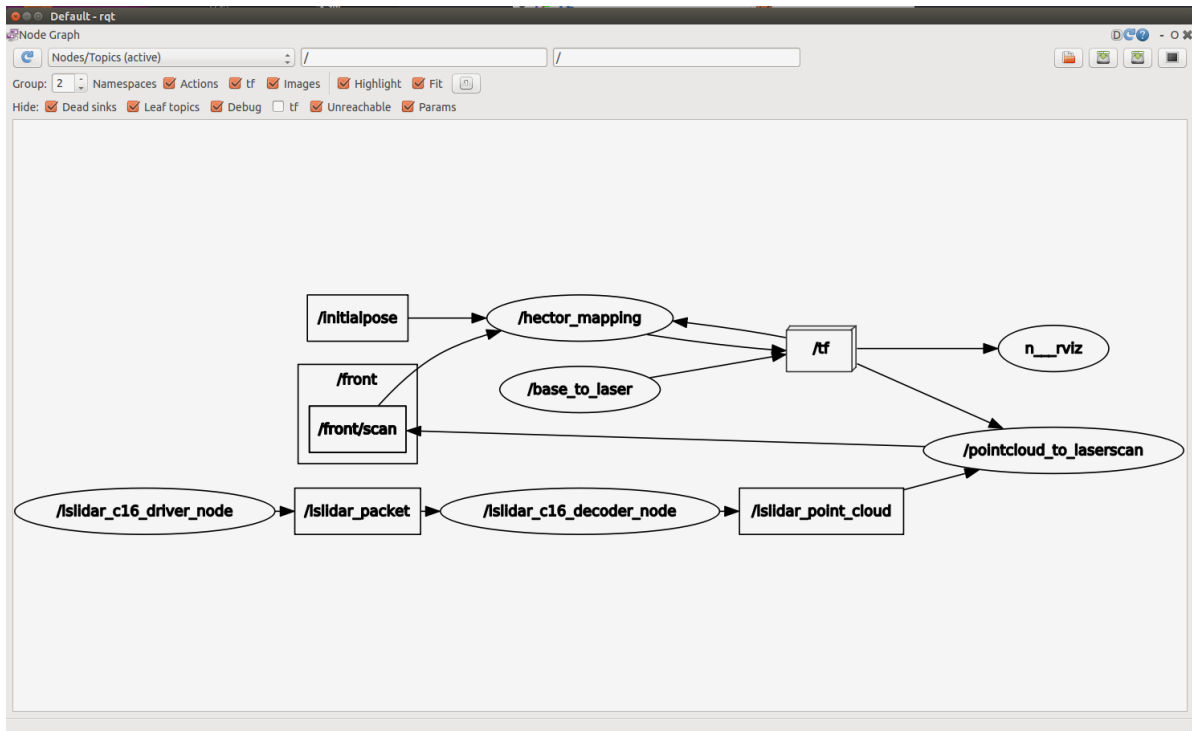
in **plugin** --> **visualization**, only **image view** and **plot** options are there, there is no **TF trees** on drop down menu.

when add package TF in .launch file, we can get the tf tree through rviz

▼  TF	<input checked="" type="checkbox"/>
▼ ✓ Status: Ok	
✓ base_link	Transform OK
✓ laser_link	Transform OK
Show Names	<input checked="" type="checkbox"/>
Show Axes	<input checked="" type="checkbox"/>
Show Arrows	<input checked="" type="checkbox"/>
Marker Scale	1
Update Interval	0
Frame Timeout	15
▼ Frames	
All Enabled	<input checked="" type="checkbox"/>
▼ base_link	<input checked="" type="checkbox"/>
Parent	
▶ Position	0; 0; 1.35
▶ Orientation	0; 0; 0; 1
▶ Relative Position	0; 0; 0
▶ Relative Orientation	0; 0; 0; 1
▼ laser_link	<input checked="" type="checkbox"/>
Parent	base_link
▶ Position	0; 0; 0
▶ Orientation	0; 0; 0; 1
▶ Relative Position	0; 0; -1.35
▶ Relative Orientation	0; 0; 0; 1
▼ Tree	
▼ base_link	
laser_link	

2. attempts and modifications on new launch file

1. launch file: hector_slam_rfans_tf_1.launch



```

[ WARN] [1624977098.787258146]: Can't transform pointcloud from frame laser_frame to base_link
[ WARN] [1624977099.788877670]: Can't transform pointcloud from frame laser_frame to base_link
[ WARN] [1624977100.797389046]: Can't transform pointcloud from frame laser_frame to base_link
[ WARN] [1624977101.879287571]: Can't transform pointcloud from frame laser_frame to base_link
[ WARN] [1624977102.988428362]: Can't transform pointcloud from frame laser_frame to base_link
[ WARN] [1624977103.990604131]: Can't transform pointcloud from frame laser_frame to base_link
[ WARN] [1624977105.073386801]: Can't transform pointcloud from frame laser_frame to base_link
[ WARN] [1624977106.076763832]: Can't transform pointcloud from frame laser_frame to base_link
[ WARN] [1624977107.081840015]: Can't transform pointcloud from frame laser_frame to base_link
[ WARN] [1624977108.089150879]: Can't transform pointcloud from frame laser_frame to base_link
[ WARN] [1624977109.162250991]: Can't transform pointcloud from frame laser_frame to base_link
[ WARN] [1624977110.177657412]: Can't transform pointcloud from frame laser_frame to base_link
[ WARN] [1624977111.179783125]: Can't transform pointcloud from frame laser_frame to base_link
[ WARN] [1624977112.182128786]: Can't transform pointcloud from frame laser_frame to base_link
[ WARN] [1624977113.204197960]: Can't transform pointcloud from frame laser_frame to base_link
[ WARN] [1624977114.269243995]: Can't transform pointcloud from frame laser_frame to base_link
[ WARN] [1624977115.283084336]: Can't transform pointcloud from frame laser_frame to base_link
[ WARN] [1624977116.297184720]: Can't transform pointcloud from frame laser_frame to base_link
[ WARN] [1624977117.399372412]: Can't transform pointcloud from frame laser_frame to base_link

```

```

dsl6v2@dsl6v2:~/catkin_x/lslidar_slam_ws$ rostopic list
/clicked_point
/diagnostics
/front/scan
/initialpose
/layer_num
/lslidar_packet
/lslidar_point_cloud
/lslidar_sweep
/map
/map_metadata
/move_base_simple/goal
/poseupdate
/rosout
/rosout_agg
/scan
/scan_channel
/slam_cloud
/slam_out_pose
/statistics
/syscommand
/tf
/tf_static
dsl6v2@dsl6v2:~/catkin_x/lslidar_slam_ws$

```

2. launch file: hector_slam_rfans_tf_2.launch

